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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/320,950	05/27/1999	JOHN N. GLOVER	2797.004	5662

7590

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EXAMINER
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SORKIN, DAVID L

ART UNIT	PAPER NUMBER
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1723

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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EXAMINER
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Commissioner for Patents

David L. Sorkin  
Primary Examiner  
Art Unit: 1723



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

**MAILED**

AUG 09 2006

Application Number: 09/320,950  
Filing Date: May 27, 1999  
Appellant(s): GLOVER, JOHN N.

**GROUP 1700**

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Ben D. Tober  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 02 June 2006 appealing from the Office  
action mailed 07 June 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed. Though a response filed 11 August 2005 was titled "Amendment and Response" and a claim list was included, no changes were actually proposed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 4,615,796                      Kramer                      10-1986

Fulton, W. F. "CE Refresher, Catalyst Engineering part 2, Selecting the Catalyst Configuration" Chemical Engineering (12 May 1986), pages 97-101.

**(9) Grounds of Rejection**

The following grounds of rejection are applicable to the appealed claims:

Claims 59, 61-67 and 69-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer (US 4,615,796) in view of "CE Refresher: Catalyst Engineering, Part 2" by John Fulton ("Fulton" herein). Regarding claims 59 and 78, Kramer ('796) discloses a method of fluid distribution in a chemical reactor comprising the steps of providing a layer of a plurality of ceramic filter units (see col. 3, lines 34-40; Figs. 1 and 2); contacting an organic based stream with the layer of the plurality of ceramic filter units and passing the organic-based stream through the layer prior to the organic based feed stream contacting a catalyst be in the chemical reactor (see col. 2, lines 20-25; Figs. 1 and 2). Kramer ('796) fails to disclose the units having 3 or more passages surrounding a central passage, through which fluid flows (although annular units, including ones with passages are disclosed in Table 1). Fulton teaches cylindrical units having a central opening and four circular/elliptical openings between the central opening and the periphery (see Fig. 1, third column, fifth row). Note: it is considered that the broadest reasonable definition of ellipse includes circles; just as squares are a special type of rectangle, circles are a special type of ellipse. It is considered that it

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would have been obvious to one of ordinary skill in the art to have shaped the units of Kramer according to the teachings of Fulton, because Kramer explains that alternative unit shapes may be used in the disclosed processes (see Table 2 and col. 4, lines 1-4). Furthermore, Fulton teaches the above-mentioned shape as an alternative to other shapes including spheres (see page 97) and explains that passages in the units can significantly reduce the amount of material needed, while minimizing loss of strength (see pages 97 and 98, Fig. 3). See also the admitted prior art of page 3, lines 7-18 of the instant specification. Regarding claim 61, Kramer ('796) further discloses removing contaminants from a contaminated stream; and providing the contaminated stream to a catalyst bed for further processing in the chemical reactor (see col. 1, lines 52-60; col. 3, lines 4-22; Figs. 1 and 2). Regarding claims 62 and 63, because "packing factor" can be set to any value for a given shape unit merely by varying the size of the unit, and Kramer ('796) explains that unit size should be selected according to an expected particle size to be filtered out, it is considered that it would have been obvious to one of ordinary skill in the art to have optimized the packing factor to suit a particular expected contaminate particle size. Further regarding claim 63, Kramer ('796) discloses packing the ceramic filter units in graduated layers into the chemical reactor with each layer having a different packing factor (see examples 1-3). Regarding claim 64, Fulton further teaches units may have a flute outer periphery (see Fig. 1). Regarding claim 65, Fulton further teaches that units may have a plurality of recessed notches extending inwardly from the outer periphery toward the medial portion of the units (see Fig. 1). Regarding claim 66, in the units taught by Fulton the four openings substantially

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surround the central opening between the central opening and the outer periphery to thereby define a ring around the central opening (see Fig. 1). Regarding claim 67, Kramer ('796) discloses a method of fluid distribution in a chemical reactor comprising the steps of providing a layer of a plurality of ceramic filter units (see col. 3, lines 34-40; Figs. 1 and 2); contacting an organic based stream with the layer of the plurality of ceramic filter units and passing the organic-based stream through the layer prior to the organic based feed stream contacting a catalyst be in the chemical reactor (see col. 2, lines 20-25; Figs. 1 and 2). Kramer ('796) fails to disclose the polygonal units having 3 or more passages surrounding a central passage, through which fluid flows. Fulton teaches units having a central opening and four circular/elliptical openings between the central opening and the periphery (see Fig. 1, third column, fifth row). Note: it is considered that the broadest reasonable definition of ellipse includes circles; just as squares are a special type of rectangle, circles are a special type of ellipse. Polygonal units are also taught (see Fig. 1). It is considered that it would have been obvious to one of ordinary skill in the art to have shaped the units of Kramer according to the teachings of Fulton, because Kramer ('796) explains that alternative unit shapes may be used in the disclosed processes (see Table 2 and col. 4, lines 1-4). Furthermore, Fulton teaches the above-mentioned shapes as an alternative to other shapes including spheres (see page 97) and explains that passages in the units can significantly reduce the amount of material needed, while minimizing lose of strength (see pages 97 and 98, Fig. 3). Fulton also notes in the caption of Fig. 1, that the shapes "represent only a few of the almost limitless variety possible". Regarding claim 69, Kramer ('796) further

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discloses removing contaminants from a contaminated stream; and providing the contaminated stream to a catalyst bed for further processing in the chemical reactor (see col. 1, lines 52-60; col. 3, lines 4-22; Figs. 1 and 2). Regarding claims 70 and 76, Fulton further teaches that units may have a plurality of recessed notches extending inwardly from the outer periphery toward the medial portion of the units (see Fig. 1). Regarding claim 71-75, square and rectangular shapes are disclosed in Fig. 1 of Fulton. It is explained that the size of the units should be selected based upon various economic trade-offs (see pages 98-99). Kramer provides examples of unit sizes being 0.5 inches and other sizes within the claimed ranges (see example 1-3). Also see applicant's admission on page 3, lines 7-10 regarding prior art thickness of "3/8 inch" and "approximately 1/8 inch to 1 1/4 inches in diameter". Regarding claim 77, in the units taught by Fulton the four openings substantially surround the central opening between the central opening and the outer periphery to thereby define a ring around the central opening (see Fig. 1). Regarding claims 79-81, the central opening taught by Fulton is circular (see Fig. 1, third column, fifth row).

Claims 82-85 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. These claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Recitation in claims 82-85 that "the outer periphery has sharp edges" is considered to be new matter. No discussion of the issue of edge sharpness is found in the originally filed disclosure.



**(10) Response to Argument**

Appellant argues beginning on page 7 of the brief that Kramer does not disclose a method of *fluid distribution*, but rather a method of *filtering*. However, Kramer discloses feeding fluid to a bed of particles. That fluid is distributed upon being feed through a bed of particles is inherent. It is also noted that the instant application, in the first sentence of the background of the invention, states "The invention relates to a filtering medium and method for filtering"; therefore, that the fluid distribution method of Kramer involves filtering makes it identical to the instant application in this respect.

Each of the instant independent claims requires three elliptical openings. It is agreed that Kramer does not disclose a unit have three elliptical openings. However, contrary to appellant's arguments on page 9 of the brief, Fulton discloses a unit having a central opening and four surrounding elliptical openings, as seen in Fig. 1, particularly the unit in column three, row five of Fig. 1. The instant claims are open to the elliptical openings being any type of elliptical opening, including circular openings. The broadest reasonable definition of "ellipse" includes circles. Just as squares are a specific subset of rectangles, circles are a specific subset of ellipses.

Appellant's discussion of supposed improved results concerning circle-shaped openings versus other types of ellipses are of no consequence, because the claims are open to all types of ellipses including circles.

Similarly, concerning the declaration of Mr. Glover, the prior art product C is within the scope of the claims. The 6 circular openings surrounding a central opening, are consistent with the claim requirement of at least 3 elliptical openings and a central

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opening, because circles are a specific subset of ellipses. Also, the experiments of Mr. Glover, compare four “elliptical” surrounding openings to six (rather than four) circular openings, even though Fulton discloses four surrounding circular/elliptical openings. Also, Mr. Glover does not explain to what degree, if any, the elliptical openings of products F-H differ from circles.

Regarding the motivation to combine the teachings of the references, it would have been obvious to one of ordinary skill in the art to have shaped the units of Kramer according to the teachings of Fulton, because Kramer explains that alternative unit shapes may be used in the disclosed processes (see Table 2 and col. 4, lines 1-4). Furthermore, Fulton teaches the relied upon shape as an alternative to other shapes including spheres (see page 97) and explains that passages in the units can significantly reduce the amount of material needed, while minimizing lose of strength (see pages 97 and 98, Fig. 3).

Appellant begins to address the section 112, first paragraph rejection on page 13 of the brief. Claim 59, from which claims 82 and 83 depend, require “a substantially annular outer peripheral shape”. Appellant’s statement “the triangular, quadrilateral, pentagonal and other similarly shaped figures shown in the aforementioned drawings all, by definition, have three or more sharp corners and/or edges formed one their outer peripheries” is irrelevant to the required “annular outer peripheral shape”. Furthermore, appellant fails to distinguish between an “edge” and a “shape edge”. It is the word “sharp” that introduces new matter.

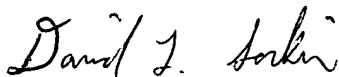
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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



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